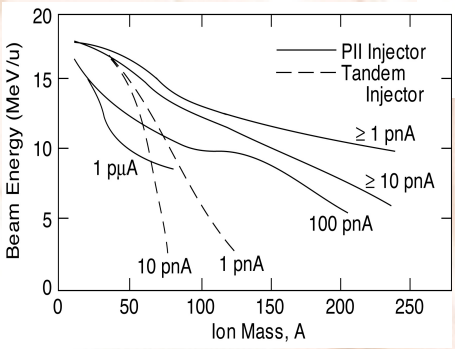
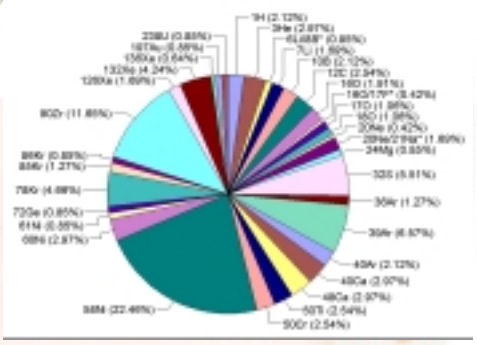
ATLAS at ANL

ATLAS Beam Energy Available



ATLAS Beams for FY2001



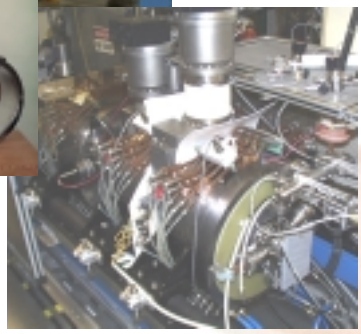
ATLAS Facility Description

National User Facility for Low Energy Heavy Ion Nuclear Physics

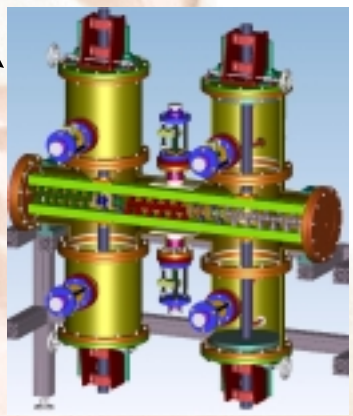
- World's First Superconducting LINAC for Heavy Ions
- Beams from protons to uranium
- Continuously Variable Energy up to 18 MeV/u
- Beam Currents in excess of 1 pμA ($6.25X10^{12}$ s^{-1}).
  - Heavy Ion Irradiation and Implantation
- Staff Expertise in:
  - Accelerator Mass Spectroscopy
  - Sophisticated Particle Detection Capability
  - Accelerator Design and Development

Accelerator Design and Development

Independently Phased Superconducting RF Accelerating Cavities

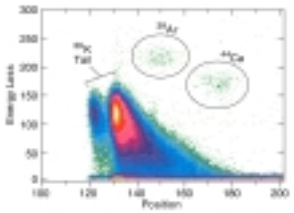


High Charge-State Ions from Electron Cyclotron Resonance Ion Sources



Hybrid RFQ LINAC design for low-velocity heavy ions

Accelerator Mass Spectroscopy



Sensitive to Isotopic Concentrations of ~5 X 10^{-17}
Fissile Material Identification
Reprocessing Site Identification

γ-ray Tracking System

Very large area LEPS
Element for a Compton Camera to measure direction of incoming γ-rays
Efficient, Good energy resolution.
92mm x 92mm x 20mm
First Level Position from 16 x 16 orthogonal 5mm strips (256 pixel)
Level-two position information from Digital Pulse Processing for sub-strip interpolation and depth (~2mm)